Honeywell

Burdick & Jackson

MATERIAL SAFETY DATA SHEET

Methanol

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Methanol

OTHER/GENERIC NAMES: Methyl Alcohol, Carbinol, Wood Alcohol,

PRODUCT USE: Solvent

MANUFACTURER: Honeywell, Burdick & Jackson
1953 South Harvey Street
Muskegon, MI 49442

FOR MORE INFORMATION CALL:
(Monday-Friday, 8:00am-5:00pm)
1-800-368-0050

IN CASE OF EMERGENCY CALL:
(24 Hours/Day, 7 Days/Week)
1-800-707-4555 or Chemtrec 1-800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS NUMBER	WEIGHT %
Methanol	67-56-1	100%

Trace impurities and additional material names not listed above may also appear in Section 15 toward the end of the MSDS. These materials may be listed for local "Right-To-Know" compliance and for other reasons.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Flammable liquid and vapor. Highly toxic by ingestion. Moderately toxic by other routes.

POTENTIAL HEALTH HAZARDS

SKIN: Irritant. Repeated or prolonged exposure can cause dermatitis.

EYES: Irritant. Redness, dryness, and itching can result from exposure.

INHALATION: Irritating to respiratory tract. Can cause drowsiness, disorientation, coughing and nausea.

INGESTION: Irritating to the gastro-intestinal tract. Can cause drowsiness, disorientation, coughing, nausea, vomiting, shortness of breath, coma, blindness and death.

DELAYED EFFECTS: None determined.

Ingredients found on one of the OSHA designated carcinogen lists are listed below.

INGREDIENT NAME	NTP STATUS	IARC STATUS	OSHA LIST
No ingredients listed in this section.			

4. FIRST AID MEASURES

SKIN: Rinse affected area with plenty of water until no evidence of chemical remains.

EYES: Rinse eyes with plenty of water for at least 15 minutes. Contact a physician.

INHALATION: Remove from exposure area to fresh air. If victim is not breathing administer artificial respiration according to your level of training and obtain professional medical assistance immediately.

INGESTION: Get immediate EMERGENCY medical assistance. Do not induce vomiting unless instructed to do so by a physician.

ADVICE TO PHYSICIAN: Due to slow metabolism, the delayed effects (like blindness and acidosis) may occur after latent period of 24 hours or more.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT:	52°F (11°C)
FLASH POINT METHOD:	Closed Cup
AUTOIGNITION TEMPERATURE:	867°F (464°C)
UPPER FLAME LIMIT (volume % in air):	36%
LOWER FLAME LIMIT (volume % in air):	6%
FLAME PROPAGATION RATE (solids):	Not Applicable
OSHA FLAMMABILITY CLASS:	IB

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical or foam.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Can burn with an invisible flame. Mixtures with high water content are still flammable.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS: Wear full protective clothing and self contained breathing apparatus. Containers in fire conditions will pressurize and may rupture. Do not allow run off from fire fighting effort to enter sewer or waterway.

6. ACCIDENTAL RELEASE MEASURES

IN CASE OF SPILL OR OTHER RELEASE: (Always wear recommended personal protective equipment.)
Eliminate sources of ignition. Isolate the spill area. Stop leak in a safe and practical manner. (If leak cannot be stopped easily and safely, advise trained emergency response personnel of the situation.) Using inert material (such as ground corncobs) dike the spilled solvent to prevent it from running into drains or waterways.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

7. HANDLING AND STORAGE

NORMAL HANDLING**:** (Always wear recommended personal protective equipment.)
Flammable liquid and vapors. Keep container closed. Do not breathe vapors. Avoid contact with skin, eyes and mucous membranes. Keep away from heat, sparks and flame. Electrically ground all handling equipment.

STORAGE RECOMMENDATIONS:
Store in an area designed for storage of flammable liquids. (OSHA 29 CFR 1910.106)
Protect from temperature extremes and sunlight, and store away from incompatible substances and in accordance with 29 CFR 1910.106.

Flammable liquid and vapor. Once liquid solvent has been completely dispensed, containers which appear "empty" should be handled in the same manner as when they were "full" of liquid solvent.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:
Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs . Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

PERSONAL PROTECTIVE EQUIPMENT

SKIN PROTECTION:
Wear chemically protective gloves, boots and aprons to prevent prolonged or repeated skin contact.

EYE PROTECTION:
Wear protective eyeglasses or chemical safety goggles, per OSHA eye and face protection regulations (*29 CFR 1910.133*). Contact lenses are not eye protective devices. Full face shield recommended for conditions where liquid contact is possible. Contact lens should not be worn when working with this chemical.

RESPIRATORY PROTECTION:
Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR1910.134) and, if necessary, wear a MSHA/NIOSH approved respirator. For emergency or non-routine operations (cleaning spills, reactor vessels or storage tanks), wear an SCBA. Warning! Air-purifying respirators do not protect workers in oxygen deficient atmospheres.

ADDITIONAL RECOMMENDATIONS:
Make emergency eyewash stations and washing facilities available in work area. Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after use.

Spills and releases may have to be reported to Federal and/or local authorities. See Section 15 regarding reporting requirements.

EXPOSURE GUIDELINES

INGREDIENT NAME	ACGIH TLV	OSHA PEL	OTHER LIMIT
Methanol	200 ppm (Skin)	200 ppm (Skin)	None

* = Limit established by Honeywell International, Inc.
** = Workplace Environmental Exposure Level (AIHA).
*** = Biological Exposure Index (ACGIH).

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS: None

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Clear, Colorless
PHYSICAL STATE:	Liquid
MOLECULAR WEIGHT:	32.04
CHEMICAL FORMULA:	CH_4O
ODOR:	Slight alcoholic. Threshold 10 ppm (NSC) 2000 ppm (NIOSH)
SPECIFIC GRAVITY (water = 1.0):	0.792
SOLUBILITY IN WATER (weight %):	~100%
pH:	Not Applicable
BOILING POINT:	64.7°C
MELTING POINT:	-97.68°C
VAPOR PRESSURE:	97 mm Hg
VAPOR DENSITY (air = 1.0):	1.11
EVAPORATION RATE:	~5 **COMPARED TO:** Butyl Acetate = 1
% VOLATILES:	~100%
FLASH POINT:	52°F (11°C)

(Flash point method and additional flammability data are found in Section 5.)

10. STABILITY AND REACTIVITY

NORMALLY STABLE? (CONDITIONS TO AVOID):
Material is stable under normal handling and storage conditions. Can react vigorously with oxidizing materials.

INCOMPATIBILITIES:
Incompatible with metals (e.g. potassium , magnesium, aluminum).

CONDITIONS TO AVOID:
Heat, open flame, oxidizers, alkali and alkaline earth metals.

HAZARDOUS DECOMPOSITION PRODUCTS:
Incomplete combustion can generate toxic vapors of carbon monoxide and other toxic fumes such as formaldehyde.

HAZARDOUS POLYMERIZATION:
Not expected to occur.

11. TOXICOLOGICAL INFORMATION

IMMEDIATE (ACUTE) EFFECTS:

Oral-Rat LD_{50}:5628 mg/kg
Oral-Mouse LD_{50}:7300 mg/kg
Oral-Monkey LD_{50} :7000 mg/kg
Inhalation-Rat LC_{50}:64,000 ppm/4H
Skin-Rabbit LD_{50}: 15,800 mg/kg

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:
Repeated inhalation exposure to rats caused CNS and behavioral effects, and changes to spleen.
Repeated oral exposures to rats caused liver toxicity, CNS effects and behavioral changes.

OTHER DATA:
Developmental and reproductive effects:
Female rats exposed during pregnancy to very high exposure levels by inhalation caused fetotoxic effects (10,000 ppm) and birth defects (20,000 ppm) as well as maternal toxicity. Female rats exposed during pregnancy to very high oral doses (20 - 35 g/kg) caused fetotoxic effects as well as maternal toxicity.

12. ECOLOGICAL INFORMATION

LC_{50} Pimephales promelas (fathead minnows 28-29 days old) 29.4 g/L/96 hr. Will produce high BOD.

13. DISPOSAL CONSIDERATIONS

RCRA

Is the unused product a RCRA hazardous waste if discarded? Yes
If yes, the RCRA ID number is: U154, D001

OTHER DISPOSAL CONSIDERATIONS:
Dispose of material in accordance with all applicable local, state, and federal regulations.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

14. TRANSPORT INFORMATION

US DOT PROPER SHIPPING NAME:	Methanol *or Methyl Alcohol*
US DOT HAZARD CLASS:	3, Flammable Liquid
US DOT ID NUMBER:	UN1230
US DOT PACKING GROUP:	II
NA EMERGENCY RESPONSE GUIDE:	131

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA)

TSCA INVENTORY STATUS: Listed on TSCA Inventory.

OTHER TSCA ISSUES: None

SARA TITLE III/CERCLA

"Reportable Quantities" (RQs) and/or "Threshold Planning Quantities" (TPQs) exist for the following ingredients.

INGREDIENT NAME	SARA/CERCLA RQ (lb)	SARA EHS TPQ (lb)
Methanol	5000 Lbs.	Not listed

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center [(800) 424-8802] and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: Acute, Chronic, Fire

SARA 313 TOXIC CHEMICALS:
The following ingredients are SARA 313 "Toxic Chemicals". CAS numbers and weight percents are found in Section 2.

INGREDIENT NAME	COMMENT
Methanol	

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME	WEIGHT %	COMMENT
No ingredients listed in this section.		

ADDITIONAL REGULATORY INFORMATION:

WHMIS CLASSIFICATION (CANADA):
Class B, Division 2 and Class D, Division 2a

FOREIGN INVENTORY STATUS:

16. OTHER INFORMATION

CURRENT ISSUE DATE: June, 2000
PREVIOUS ISSUE DATE: February, 1997, March, 1998

CHANGES TO MSDS FROM PREVIOUS ISSUE DATE ARE DUE TO THE FOLLOWING:

Update to ANSI Standard. New header and footer information.

NFPA Classification	
Health:	1
Flammability:	3
Reactivity:	0